



National Aeronautics and  
Space Administration

Langley Research Center  
Hampton, VA 23681-2199

Educational Product

Educators

Grades 3-5

ET-2002-04-05-LARC



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generation of  
explorers as only  
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## Season 2002-2003

The NASA SClence Files™ is an annual series of FREE Emmy® award-winning instructional programs consisting of broadcast, print, and online elements. Emphasizing research and standards-based instruction, Problem-Based Learning, and scientific inquiry, the series seeks to motivate students in grades 3-5 to become critical thinkers and active problem solvers. Each program supports the national mathematics, science, and technology standards and has three components that include (1) a 60-minute television broadcast, which can be viewed live or taped for later use; (2) a companion educator's guide; and (3) an interactive web site featuring a Problem-Based Learning activity that enables students to further explore topics presented in the broadcast. The web site also contains a wealth of instructional resources.



## 1 Register

Register online at  
[scifiles.larc.nasa.gov](http://scifiles.larc.nasa.gov)

## 2 Access

**There are several ways to obtain the television broadcast:**

- NASA SClence Files™ air on PBS, NASA TV, and on many cable access and ITV channels. Check our web site for viewing in your locality
- The programs are uplinked in KU and C band via satellite. The satellite coordinates are listed on the NASA SClence Files™ web site.
- Programs are available on the web through NASA's Learning Technologies Channel, <http://quest.nasa.gov/events/sci/index.html>
- Video copies of the broadcast can be obtained from the NASA Educator Resource Center in your state, <http://education.nasa.gov/ernc> or from the NASA Central Operation of Resources for Educators, <http://core.nasa.gov>

Visit the web site,  
<http://scifiles.larc.nasa.gov> to  
download the lesson guides  
and locate the web activities.

## 3 Integrate

Integrate the television broadcast, hands-on activities in the guide and the web activity into your classroom to enhance and extend our curriculum.

# 1 The Case of the Powerful Pulleys

**Starts Airing:** Wed., Sept. 25, 2002  
11 a.m.-12 Noon EDT

One of the tree house detectives has had an accident and cannot get into the tree house. Using Problem-Based Learning, the rest of the gang investigates the world of simple machines and physical science and "pulls" together to get everyone into the tree house.

**Math Standards:** Measurement, Problem Solving, and Representation

**Science Standards:** Science and Inquiry; Physical Science; Science and Technology

**Technology Standards:** Basic Operations and Concepts; Social, Ethical, and Human Issues; Technology Productivity Tools; Technology Communication Tools; Technology Research Tools; and Technology Problem-Solving and Decision-Making Tools

# 2 The Case of the Mysterious Red Light (R)

**Starts Airing:** Wed., Oct. 16, 2002  
11 a.m.-12 Noon EDT

Have you ever seen an unusually bright red sunrise or sunset and wondered why? That's exactly what happens as the tree house detectives accept the challenge of trying to find the source of the strange red light.

**Math Standards:** Measurement, Problem Solving, and Representation

**Science Standards:** Science and Inquiry; Physical Science; Earth and Space Science; Science and Technology

**Technology Standards:** Basic Operations and Concepts; Social, Ethical, and Human Issues; Technology Productivity Tools; Technology Communication Tools; Technology Research Tools; and Technology Problem-Solving and Decision-Making Tools

# 3 The Case of the Shaky Quake

**Starts Airing:** Wed., Nov. 20, 2002  
11 a.m.-12 Noon ET

Troubled by a strange tremor in the area, the tree house detectives investigate earthquakes. Join them as they delve into geography, geology, and plate tectonics to discover why they're "all shook up."

**Math Standards:** Measurement, Problem Solving, and Representation

**Science Standards:** Science and Inquiry; Physical Science; Science and Technology

**Technology Standards:** Basic Operations and Concepts; Social, Ethical, and Human Issues; Technology Productivity Tools; Technology Communication Tools; Technology Research Tools; and Technology Problem-Solving and Decision-Making Tools



# 4 The Case of the "Wright" Invention (R)

**Starts Airing:** Wed., Dec. 11, 2002  
11 a.m.-12 Noon ET

Travel back in time with the tree house detectives to learn about the invention process from two of the greatest inventors, Orville and Wilbur Wright. The tree house detectives find that inventing is not as easy as it seems, and it really does take the "Wright" stuff to be a good inventor.

**Math Standards:** Measurement; Data Analysis and Probability; Problem Solving

**Science Standards:** Science and Inquiry; Physical Science; Science and Technology

**Technology Standards:** Basic Operations and Concepts; Social, Ethical, and Human Issues; Technology Productivity Tools; Technology Communication Tools; Technology Research Tools; and Technology Problem-Solving and Decision-Making Tools

# 5 The Case of the Barking Dogs (R)

**Starts Airing:** Wed., Jan. 25, 2003  
11 a.m.-12 Noon ET

The tree house detectives accept the challenge of determining why dogs have unexpectedly started barking in the morning and late at night. The detectives learn about sound, what it is, how it is transmitted, and how human beings and animals hear.

**Math Standards:** Algebra; Geometry; Measurement; Data Collection and Analysis, Connections, and Representation

**Science Standards:** Science and Inquiry; Physical Science; Life Science; Science and Technology

**Technology Standards:** Basic Operations and Concepts; Social, Ethical, and Human Issues; Technology Communication Tools; and Technology Research Tools

# 6 The Case of the Inhabitable Habitat (R)

**Starts Airing:** Wed., Feb. 19, 2003  
11 a.m.-12 Noon ET

Come help the tree house detectives as they enter a contest to design a habitat that will sustain life on Mars. Join them as they learn about various habitats on land, in the water, and even in space.

**Math Standards:** Measurement; Data Analysis and Probability; Problem Solving

**Science Standards:** Science and Inquiry; Life Science; Earth and Space Science; Science and Technology

**Technology Standards:** Basic Operations and Concepts; Social, Ethical, and Human Issues; Technology Productivity Tools; Technology Communication Tools; Technology Research Tools; and Technology Problem-Solving and Decision-Making Tools

# 7 The Case of the Biological Biosphere

**Starts Airing:** Wed., Mar 19, 2003  
11 a.m.-12 Noon ET

One of the tree house detectives is about to take a trip to foreign shores and is both excited and concerned. This is a chance of a lifetime, and he doesn't want to get sick and miss the trip. The detectives learn about the human body as they discover that no man is an island, not even a kid.

**Math Standards:** Measurement; Data Analysis and Probability; Problem Solving;

**Science Standards:** Science and Inquiry; Life Science; Earth and Space Science; Science and Technology

**Technology Standards:** Basic Operations and Concepts; Social, Ethical, and Human Issues; Technology Productivity Tools; Technology Communication Tools; Technology Research Tools; and Technology Problem-Solving and Decision-Making Tools

# 8 The Case of the Phenomenal Weather (R)

**Starts Airing:** Wed., April 9, 2003  
11 a.m.-12 Noon ET

Join the tree house detectives as they plan a trip to Florida and encounter problems trying to predict the weather. Learn about violent storms, such as hurricanes and tornadoes, weather fronts, global wind patterns, and climates.

**Math Standards:** Geometry; Measurement; Data Analysis and Probability; Problem Solving

**Science Standards:** Science and Inquiry; Life Science; Earth and Space Science; Science and Technology

**Technology Standards:** Basic Operations and Concepts; Social, Ethical, and Human Issues; Technology Productivity Tools; Technology Communication Tools; Technology Research Tools; and Technology Problem-Solving and Decision-Making Tools

# 9 The Case of the Galactic Vacation

**Starts Airing:** Wed., May 14, 2003  
11 a.m.-12 Noon ET

The tree house detectives go galactic with their latest project, creating travel brochures for our solar system. What do you pack for a weekend on Jupiter or a spring on Saturn? Find out as the tree house detectives explore life beyond the atmosphere.

**Math Standards:** Geometry; Measurement; Data Analysis and Probability; Problem Solving

**Science Standards:** Science and Inquiry; Life Science; Earth and Space Science; Science and Technology

**Technology Standards:** Basic Operations and Concepts; Social, Ethical, and Human Issues; Technology Productivity Tools; Technology Communication Tools; Technology Research Tools; and Technology Problem-Solving and Decision-Making